Uttar Pradesh POSTER: GDM

Title: Management of blood sugar levels in Hyperglycemia in Pregnancy (HIP) reduces Perinatal, Infant Morbidity & Mortality as a result of a Large prospective cohort learn from Uttar Pradesh

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Background: **Since last decade Diabetes mellitus is emerging as an important public health problem in India owing to its increasing prevalence rates. As many studies have indicated GDM is emerging as a rising public health problem in pregnant women in India. Random surveys across many cities of India have shown that prevalence rates vary across different cities such as Kanpur in U.P 13.4%, Haryana 7.1%, Kashmir 3.8%, South India 21%.**

Materials and Methods: **A cohort study for Gestational Diabetes Prevention and Control Project was done for 2 years i.e from Sept 2013 to Sept 2015 at 198 ANC care public health facilities in Kanpur District of Uttar Pradesh. As per GOI guidelines for universal screening of Diabetes in Pregnant women, state GDM Project initiated in 18 Div Districts in 2017 onwards. State TOT was completed on 25th May 2017. Subsequently a three day training for doctors and & Paramedical staff was done in all districts A total of 6700 ANM in 18 Div Districts of Uttar Pradesh were provided with Glucometers and trained for 2 days at block level by trained medical officers , with support staff of partners and company staff (technical handholding) . After procurement and training of Medical officers and ANMs programme was rolled out in all the 18 div districts by December 2017. Glucometers were also provided to all the CHCs, PHCs and District hospitals . This was followed by a State launch for GDM on 3rd May 2018 by the State Cabinet minister Professor Reeta Bahuguna Joshi . Till November 2018 a total of 647,456 pregnant women have been screened during 14-16 Weeks & 24–26th weeks of Gestation by using oral glucose tolerance test (OGTT)(DIPSI Diagnostic Criteria of =>140 mg/dl after giving 75 gms of glucose irrespective of fasting state . A two hour blood sugar value was tested with Glucometer). Uttar Pradesh GDM Model provides a unique opportunity for ANM to do test for every ANC twice during Pregnancy and once after 6 weeks of delivery**

Results: In the earlier study it was seen that Perinatal and maternal outcomes in GDM cases were significantly related to the blood sugar levels (P < 0.0001).

Table 1 : Maternal and fetal outoomes of gestational diabetes mellitus and nongestational diabetes mellitus pregnant women

Outcomes	GDM cases (n=7641) N (%)	Non-GDM cases (n=8000) N (%)	RR	95% CI	*p-value*
Stillbirth	247 (3.2)	102 (1.3)	2.53	2.0-3.1	<0.0001
Neonatal death	128 (1.7)	56 (0.7)	2.39	1.75-3.27	<0.0001
Perinatal death	375 (4.9)	158 (1.97)	2.48	2.0-2.9	<0.0001
Congenital malformation	382 (5)	82 (1.03)	4.87	3.8-6.1	<0.0001
Cesarean section	2242 (29.3)	1814 (22.67)	1.21	1.2-1.3	<0.0001
PBU Care	234 (3.06)	85 (1.06)	2.88	2.25-3.68	<0.0001
LGA	684 (9)	67 (.83)	10.6	8.3-13.7	<0.0001
LBW	863 (11.3)	758 (9.4)	1.19	1.1-1.3	<0.0002
PIH	686 (9)	483 (6)	1.83	1.6-2.0	<0.0001
Jaundice	382 (5)	84 (1)	4.76	3.7-6.0	<0.0001
Family history of DM	1372 (17.9)	546 (6.8)	2.62	2.3-2.8	<0.0001
APH/PPH	64 (.0.84)	26 (0.32)	2.57	1.6-4.0	<0.0001

APH : Antepartum hemorrhage, PPH : Postpartum hemorrhage; PIH : Pregnancy-induced hypertension; LBW: Low birth weight; LGA: Low gestation for age; PBU: Premature baby unit; OR : Odds ratio, RR : Relative risk; DM : Diabetes mellitus; GDM : Ges : Gestational diabetes mellitus

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In this one year study period it is seen that though our screening and reporting has improved with time, yet the overall Prevalence rate of GDM from all center is only 6.7% as compared to the Pilot study of Kanpur (2013-2015) where Prevalence rate was 13.6% for pregnant . The Post Partum Screening is only also 8%, which is low & Postpartum screening in the earlier study was 12%.

This data is likely to increase with more training and handholding of the field staff. Regular Monitoring and training of ANM and health care professional is also going on with more and more doctors realizing the importance of GDM.

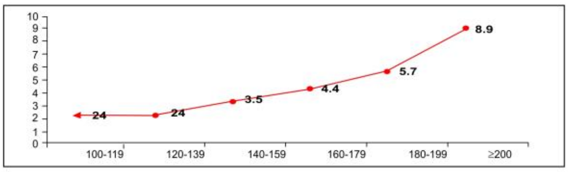

Figure 1 : Perinatal mortality (%) in gestational diabetes mellitus cases in relation to the maternal blood sugar levels (in g/dl)

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CONCLUSION

Blood sugar level is an important possible indicator of maternal and perinatal morbidity and mortality in GDM cases. DIPSI Test adopted by GOI, 2016 offers a great opportunity to diagnose GDM after 75 gm of Glucose, post 2 hour Blood Glucose value =>140 mg & manage GDM by MNT and Metformin or Insulin, and ultimately reduces Maternal and foetal complication and reduces Perinatal & Neonatal mortality & morbidity. It is still a challenge to take forward the testing and management of GDM to all the pregnant women and we have a long way to go.